

15A, 600V - 1000V Standard Bridge Rectifier

FEATURES

- Ideal for printed circuit board
- High surge current capability
- UL Recognized File # E-326243
- RoHS Compliant
- Halogen-free according to IEC 61249-2-21

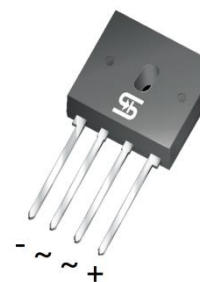
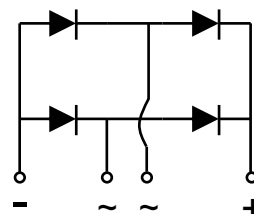
APPLICATIONS

- Switching mode power supply (SMPS)
- Adapters
- TV
- Monitor

MECHANICAL DATA

- Case: GBU
- Molding compound meets UL 94V-0 flammability rating
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 1 whisker test
- Polarity: As marked
- Weight: 3.96g (approximately)

| KEY PARAMETERS | | |
|----------------|------------|------|
| PARAMETER | VALUE | UNIT |
| I_F | 15 | A |
| V_{RRM} | 600 - 1000 | V |
| I_{FSM} | 220 | A |
| $T_{J\ MAX}$ | 150 | °C |
| Package | GBU | |
| Configuration | Quad | |


GBU


| ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ unless otherwise noted) | | | | | |
|--|--------------------|--------------|---------|---------|----------------------|
| PARAMETER | SYMBOL | GBU1505 | GBU1506 | GBU1507 | UNIT |
| Marking code on the device | | GBU1505 | GBU1506 | GBU1507 | |
| Repetitive peak reverse voltage | V_{RRM} | 600 | 800 | 1000 | V |
| Reverse voltage, total rms value | $V_{R(RMS)}$ | 420 | 560 | 700 | V |
| Forward current | I_F | 15 | | | A |
| Surge peak forward current single half sine-wave superimposed on rated load per diode | $t = 8.3\text{ms}$ | 220 | | | A |
| | $t = 1.0\text{ms}$ | | | | |
| Rating of fusing ($t < 8.3\text{ms}$) | I^2t | 200 | | | A^2s |
| Junction temperature | T_J | - 55 to +150 | | | °C |
| Storage temperature | T_{STG} | - 55 to +150 | | | °C |

| THERMAL PERFORMANCE | | | |
|--|-----------------|------------|-------------|
| PARAMETER | SYMBOL | TYP | UNIT |
| Junction-to-lead thermal resistance | $R_{\theta JL}$ | 1.5 | °C/W |
| Junction-to-ambient thermal resistance | $R_{\theta JA}$ | 7.5 | °C/W |
| Junction-to-case thermal resistance | $R_{\theta JC}$ | 1.0 | °C/W |

Thermal Performance Note: Mounted on Heat sink with 4" x 6" x 0.25" Al -Plate.

| ELECTRICAL SPECIFICATIONS ($T_A = 25^\circ\text{C}$ unless otherwise noted) | | | | | |
|---|--|---------------|------------|------------|---------------|
| PARAMETER | CONDITIONS | SYMBOL | TYP | MAX | UNIT |
| Forward voltage per diode ⁽¹⁾ | $I_F = 7.5\text{A}, T_J = 25^\circ\text{C}$ | V_F | 0.93 | - | V |
| | $I_F = 15\text{A}, T_J = 25^\circ\text{C}$ | | 1.00 | 1.10 | V |
| | $I_F = 7.5\text{A}, T_J = 125^\circ\text{C}$ | | 0.82 | - | V |
| | $I_F = 15\text{A}, T_J = 125^\circ\text{C}$ | | 0.92 | - | V |
| Reverse current @ rated V_R per diode ⁽²⁾ | $T_J = 25^\circ\text{C}$ | I_R | - | 5 | μA |
| | $T_J = 125^\circ\text{C}$ | | - | 500 | μA |
| Junction capacitance per diode | 1MHz, $V_R = 4.0\text{V}$ | C_J | 79 | - | pF |

Notes:

1. Pulse test with PW = 0.3ms
2. Pulse test with PW = 30ms

| ORDERING INFORMATION | | |
|------------------------------------|----------------|----------------|
| ORDERING CODE⁽¹⁾ | PACKAGE | PACKING |
| GBU150x | GBU | 20 / Tube |

Notes:

1. "x" defines voltage from 600V(GBU1505) to 1000V(GBU1507)

CHARACTERISTICS CURVES

($T_A = 25^\circ\text{C}$ unless otherwise noted)

Fig.1 Forward Current Derating Curve

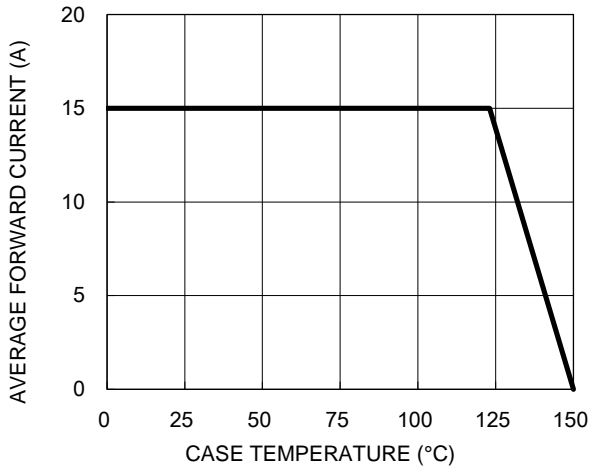


Fig.2 Typical Junction Capacitance

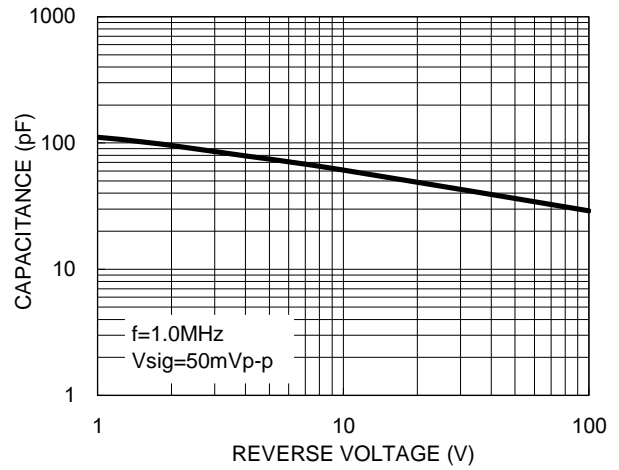


Fig.3 Typical Reverse Characteristics

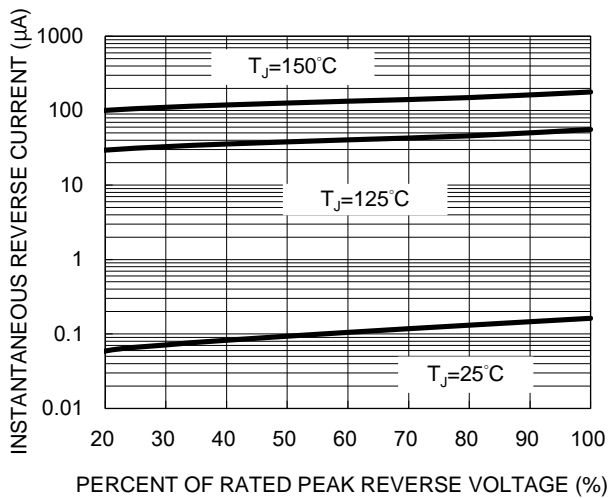
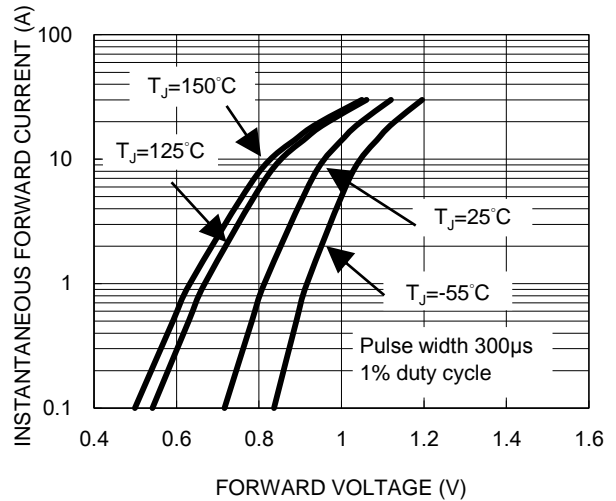
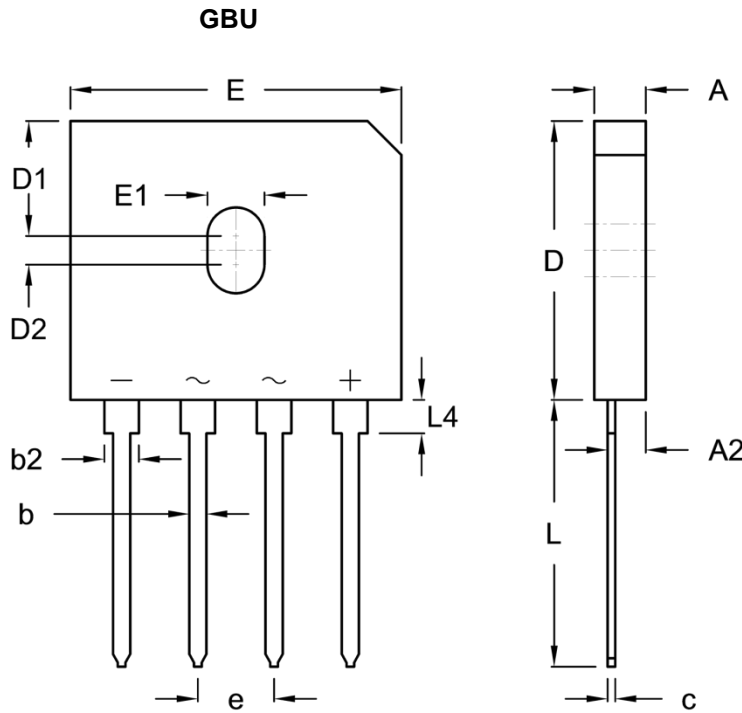


Fig.4 Typical Forward Characteristics

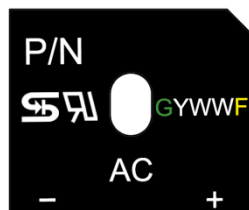


PACKAGE OUTLINE DIMENSIONS



| DIM. | Unit (mm) | | Unit (inch) | |
|------|-----------|-------|-------------|-------|
| | Min. | Max. | Min. | Max. |
| A | 3.30 | 3.56 | 0.130 | 0.140 |
| A2 | 2.40 | 2.66 | 0.094 | 0.105 |
| b | 1.02 | 1.27 | 0.040 | 0.050 |
| b2 | 2.06 | 2.54 | 0.081 | 0.100 |
| c | 0.46 | 0.56 | 0.018 | 0.022 |
| D | 18.30 | 18.80 | 0.720 | 0.740 |
| D1 | 7.40 | 7.90 | 0.291 | 0.311 |
| D2 | 1.65 | 2.16 | 0.065 | 0.085 |
| E | 21.80 | 22.30 | 0.858 | 0.878 |
| E1 | 3.50 | 4.10 | 0.138 | 0.161 |
| e | 4.83 | 5.33 | 0.190 | 0.210 |
| L | 17.50 | 18.00 | 0.689 | 0.709 |
| L4 | 1.91 | 2.54 | 0.075 | 0.100 |

MARKING DIAGRAM



- P/N = Marking Code
- G = Green Compound
- YWW = Date Code
- F = Factory Code

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